



INSPECTION FOR THE PRESENCE OF ASBESTOS-CONTAINING MATERIALS

Waterbury State Office Complex – Building 1, 2, 3 South

September 11, 2013



At the request of the State of Vermont, Department of Buildings and General Services (BGS), Crothers Environmental Group, LLC (CEG) conducted a renovation inspection for the presence of asbestos-containing materials at Building 1,2,3 South located at the Waterbury State Office Complex in Waterbury, Vermont. The inspection was conducted on October 12, 2012. The inspection was conducted to comply with renovation/demolition requirements set forth by the Vermont Regulations for Asbestos Control (V.S.A Title 18, Chapter 26), the U.S. Environmental Protection Agency Asbestos NESHAP Regulation (40 CFR Part 61 Subpart M) and the Occupational Safety & Health Administration (29 CFR 1926.1101 Construction Standard for Asbestos).

The following materials were found to contain asbestos in concentrations greater than 1%:

- **Window glazing**
- **Window caulk**
- **White sink undercoat**
- **Gray floor tile**
- **Door caulking remnant**
- **Black mastic & remnant**
- **Heating system mudded joint packing**
- **9" x 9" dark brown floor tile**
- **Light brown floor tile**
- **Brown fire stop**
- **Red floor tile (historic sampling)**

ASBESTOS BULK SAMPLING & LABORATORY ANALYSIS

One hundred ten (110) bulk samples (includes layers) were collected and delivered to EMSL Analytical, Inc. Proper chain-of-custody procedures were followed during transport of samples. EMSL Analytical, Inc. is a Vermont Licensed and US EPA Accredited Laboratory. All samples, unless noted, were analyzed by Polarized Light Microscopy “PLM” in accordance with EPA test method 40 CFR Part 763, Subpart F. The analyst visually estimates the percentages of identified asbestos. The following table provides asbestos bulk sampling information:

TABLE 1
ASBESTOS BULK SAMPLE INVENTORY & ANALYTICAL RESULTS

September 11, 2013 Sampling

Sample Number	Homogeneous Material	Sample Location	Analytical Result
200-SHC-21	Plaster in subfloor	2nd floor – room # 207	No Asbestos Detected (NAD)
200-SHC-22	Plaster in subfloor	2 nd floor – adjacent to elevator	NAD
200-SHC-23	Plaster in subfloor	2nd floor – room # 211	NAD
200-SHC-24	Plaster in subfloor	2nd floor – room # 217	NAD
200-SHC-25	Plaster in subfloor	2nd floor – hallway adjacent to room # 216	NAD

September 3, 2013 Sampling

Sample Number	Homogeneous Material	Sample Location	Analytical Result
200-SHC-1	Plaster in subfloor	3 rd floor – hallway	0.75% Chrysotile
200-SHC-2	Plaster in subfloor	2 nd floor – near elevator	NAD
200-SHC-3	Plaster in subfloor	2nd floor – outside room # 202	NAD
200-SHC-4	Plaster in subfloor	3 rd floor – near stairway	NAD
200-SHC-9	Homasote type wallboard	3 rd floor – hallway	NAD

October 12, 2012 Sampling

Sample Number	Homogeneous Material	Sample Location	Analytical Result
888200B-123S-1A	4" brown mopboard	3 rd floor – west wall of room #315	NAD
888200B-123S-1B	Yellow mopboard glue under 4" brown mopboard	3 rd floor – west wall of room #315	NAD
888200B-123S-2	Window glazing	3 rd floor – room #315	2% Chrysotile Asbestos
888200B-123S-3	Window caulk	3 rd floor – room #315	4% Chrysotile Asbestos
888200B-123S-4	Brown floor separator	3 rd floor – top of north stairwell	NAD
888200B-123S-5A	Beige stair tread	3 rd floor – top of north stairwell	NAD
888200B-123S-5B	Black stair tread mastic under beige stair tread	3 rd floor – top of north stairwell	NAD
888200B-123S-6	Orange carpet glue	3 rd floor – north stairwell landing	NAD
888200B-123S-7	Gray floor leveler	3 rd floor – top of north stairwell	NAD
888200B-123S-8	White sink undercoat	3 rd floor – under sink in north kitchen	5% Chrysotile Asbestos
888200B-123S-9	Black sink gasket	3 rd floor – under sink in north kitchen	NAD
888200B-123S-10A	Gray floor leveler	3 rd floor – closet north of partition walls	NAD

Sample Number	Homogeneous Material	Sample Location	Analytical Result
888200B-123S-10B	White floor leveler under Gray floor leveler	3 rd floor – closet north of partition walls	NAD
888200B-123S-10C	Gray floor tile under first layer of Gray floor leveler	3 rd floor – closet north of partition walls	2% Chrysotile Asbestos
888200B-123S-10D	Black mastic under Gray floor leveler	3 rd floor – closet north of partition walls	NAD
888200B-123S-11A	Gray floor leveler	3 rd floor – closet north of partition walls	NAD
888200B-123S-11B	White floor leveler under Gray floor leveler	3 rd floor – closet north of partition walls	NAD
888200B-123S-11C	Gray floor tile under first layer of Gray floor leveler	3 rd floor – closet north of partition walls	2% Chrysotile Asbestos
888200B-123S-11D	Black mastic under gray floor leveler	3 rd floor – closet north of partition walls	NAD
888200B-123S-12A	Homosote flooring	3 rd floor – room #307	NAD
888200B-123S-12B	Black homosote mastic under homosote flooring	3 rd floor – room #307	NAD
888200B-123S-13A	Homosote flooring	3 rd floor – room #305	NAD
888200B-123S-13B	Black homosote mastic under homosote flooring	3 rd floor – room #305	NAD
888200B-123S-14A	Yellow epoxy flooring	3 rd floor – men's restroom under linoleum	NAD
888200B-123S-14B	Black grout under yellow epoxy flooring	3 rd floor – men's restroom under linoleum	NAD
888200B-123S-15A	Yellow epoxy flooring	3 rd floor – men's restroom under linoleum	NAD
888200B-123S-15B	Black grout under yellow epoxy flooring	3 rd floor – men's restroom under linoleum	NAD
888200B-123S-16	Window glazing	2 nd floor – on patio	NAD
888200B-123S-17	Window caulking	2 nd floor – on patio	2% Chrysotile Asbestos
888200B-123S-18	Door caulking remnant	2 nd floor – door to patio	3% Chrysotile Asbestos

Sample Number	Homogeneous Material	Sample Location	Analytical Result
888200B-123S-19	Black mastic remnant	2 nd floor – on exterior wall on patio	3% Chrysotile Asbestos
888200B-123S-20	Black mastic remnant	2 nd floor – on exterior wall on patio	2% Chrysotile Asbestos
888200B-123S-21	Heating system mudded joint packing	2 nd floor – heat pipe in kitchenette	20% Chrysotile Asbestos
888200B-123S-22	Heating system mudded joint packing	2 nd floor – closet adjacent to room #215	NAD
888200B-123S-23	Heating system mudded joint packing	2 nd floor – room #209	NAD
888200B-123S-24A	4” brown mopboard	2 nd floor – hall outside room #206	NAD
888200B-123S-24B	Yellow mopboard glue under 4” brown mopboard	2 nd floor – hall outside room #206	NAD
888200B-123S-25	2” brown floor separator	2 nd floor – entryway to men’s restroom	NAD
888200B-123S-26	2” brown floor separator	2 nd floor – entryway to men’s restroom	NAD
888200B-123S-27A	6” beige mopboard	2 nd floor – north wall of men’s restroom	NAD
888200B-123S-27B	Yellow mopboard glue under 6” beige mopboard	2 nd floor – north wall of men’s restroom	NAD
888200B-123S-28A	6” beige mopboard	2 nd floor – south wall of men’s restroom	NAD
888200B-123S-28B	Yellow mopboard glue under 6” beige mopboard	2 nd floor – south wall of men’s restroom	NAD
888200B-123S-29A	Gray vinyl flooring	2 nd floor – north floor of men’s restroom	NAD
888200B-123S-29B	Yellow flooring glue under Gray vinyl flooring	2 nd floor – north floor of men’s restroom	NAD
888200B-123S-29C	White floor leveler under Gray vinyl flooring	2 nd floor – north floor of men’s restroom	NAD
888200B-123S-30A	Gray vinyl flooring	2 nd floor – south floor of men’s restroom	NAD
888200B-123S-30B	Yellow flooring glue under Gray vinyl flooring	2 nd floor – south floor of men’s restroom	NAD
888200B-123S-30C	White floor leveler under Gray vinyl flooring	2 nd floor – south floor of men’s restroom	NAD
888200B-123S-31A	Gray flooring paper	2 nd floor – south floor of women’s restroom	NAD

Sample Number	Homogeneous Material	Sample Location	Analytical Results
888200B-123S-31B	Orange flooring glue under Gray flooring paper	2 nd floor – south floor of women's restroom	NAD
888200B-123S-31C	White floor leveler under Gray flooring paper	2 nd floor – south floor of women's restroom	NAD
888200B-123S-32A	Gray flooring paper	2 nd floor – north floor of women's restroom	NAD
888200B-123S-32B	Orange flooring glue under Gray flooring paper	2 nd floor – north floor of women's restroom	NAD
888200B-123S-32C	White floor leveler under Gray flooring paper	2 nd floor – north floor of women's restroom	NAD
888200B-123S-33A	Gray glue	2 nd floor – under carpet south end of hall	NAD
888200B-123S-33B	Orange glue under Gray glue	2 nd floor – under carpet south end of hall	NAD
888200B-123S-33C	Homosote flooring under Gray glue	2 nd floor – under carpet south end of hall	NAD
888200B-123S-33D	Black mastic under Gray glue	2 nd floor – under carpet south end of hall	NAD
888200B-123S-34A	Gray glue	2 nd floor – under carpet north end of hall	NAD
888200B-123S-34B	Orange glue under Gray glue	2 nd floor – under carpet north end of hall	VOID
888200B-123S-34C	Homosote flooring under Gray glue	2 nd floor – under carpet north end of hall	NAD
888200B-123S-34D	Black mastic under Gray glue	2 nd floor – under carpet north end of hall	NAD
888200B-123S-35	Orange carpet glue	2 nd floor – under carpet in central stairwell	NAD
888200B-123S-36	Black grout substance	2 nd floor – under linoleum in kitchen	NAD
888200B-123S-37	Black grout substance	2 nd floor – under linoleum in kitchen	NAD
888200B-123S-38	Black flooring paper	1 st floor – hallway at south end of building	NAD
888200B-123S-39	Black flooring paper	1 st floor – hallway at north end of building	NAD
888200B-123S-40A	9" x 9" dark brown floor tile	1 st floor – south stairwell landing under carpet	8% Chrysotile Asbestos

Sample Number	Homogeneous Material	Sample Location	Analytical Result
888200B-123S-40B	Black mastic under 9" x 9" dark brown floor tile	1 st floor – south stairwell landing under carpet	NAD
888200B-123S-41A	4" brown cove base	1 st floor – south wall at sound end of hallway	NAD
888200B-123S-41B	Glue under 4" brown cove base	1 st floor – south wall at sound end of hallway	NAD
888200B-123S-42	Window glazing	1 st floor – southwest window of room #113	NAD
888200B-123S-43	Window caulk	1 st floor – southwest window of room #113	4% Chrysotile Asbestos
888200B-123S-44	Door caulk remnant	1 st floor – exit door to patio	4% Chrysotile Asbestos
888200B-123S-45A	9" x 9" dark brown floor tile	1 st floor – under carpet in central stairwell	5% Chrysotile Asbestos
888200B-123S-45B	Black mastic under 9" x 9" dark brown floor tile	1 st floor – under carpet in central stairwell	2% Chrysotile Asbestos
888200B-123S-45C	Orange carpet glue under 9" x 9" dark brown floor tile	1 st floor – under carpet in central stairwell	NAD
888200B-123S-46	Orange carpet glue	1 st floor – under carpet in central stairwell	NAD
888200B-123S-47	Black mastic filler residue	1 st floor – on floor in women's restroom	NAD
888200B-123S-48	Black mastic filler residue	1 st floor – on floor in women's restroom	NAD
888200B-123S-49	Mudded joint packing	1 st floor – on heat pipes in center of hall	NAD
888200B-123S-50	12" x 12" small worm patterned ceiling tile (patch)	1 st floor – men's restroom	NAD
888200B-123S-51A	Light brown floor tile	1 st floor – men's restroom	3% Chrysotile Asbestos
888200B-123S-51B	Mastic under light brown floor tile	1 st floor – men's restroom	2% Chrysotile Asbestos
888200B-123S-52A	Light brown floor tile	1 st floor – men's restroom	2% Chrysotile <1% Anthophyllite Asbestos

Sample Number	Homogeneous Material	Sample Location	Analytical Result
888200B-123S-52B	Mastic under light brown floor tile	1 st floor – men’s restroom	4% Chrysotile Asbestos
888200B-123S-53	Gray floor leveler	1 st floor – east side of north entry to building 1,2,3 south	NAD
888200B-123S-54	Gray floor leveler	1 st floor – west side of north entry to building 1,2,3 south	NAD
888200B-123S-55	Brown floor separator	1 st floor – stairwell at south end of building	NAD
888200B-123S-56	Brown floor separator	1 st floor – stairwell at north end of building	NAD
888200B-123S-57A	Beige stair tread	1 st floor – stairwell to Core building in south hall	NAD
888200B-123S-57B	Black mastic under beige stair tread	1 st floor – stairwell to Core building in south hall	NAD
888200B-123S-58A	6” beige cove base	1 st floor – stairwell to Core building in south hall	NAD
888200B-123S-58B	Brown glue under 6” beige cove base	1 st floor – stairwell to Core building in south hall	NAD
888200B-123S-59	Blue floor separator	1 st floor – entrance to bathroom at south end of hallway	NAD
888200B-123S-60	Blue floor separator	1 st floor – entrance to bathroom at south end of hallway	NAD
888200B-123S-61A	Beige stair tread	Basement – north stairwell landing	NAD
888200B-123S-61B	Black mastic under beige stair tread	Basement – north stairwell landing	NAD
888200B-123S-62A	6” beige cove base	1 st floor – south side of hall on south stairwell	NAD
888200B-123S-62B	Brown glue under 6” beige cove base	1 st floor – south side of hall on south stairwell	NAD
888200B-123S-63	Red gasket	Basement – on steam pipes in mechanical room	NAD
888200B-123S-64	Red gasket	Basement – on steam pipes in mechanical room	NAD
888200B-123S-65	White pipe mastic	Basement – on steam pipes in mechanical room	NAD
888200B-123S-66	White pipe mastic	Basement – hallway pipes on north side	NAD
888200B-123S-67	Brown fire stop	Basement – west wall of electrical room	10% Chrysotile Asbestos
888200B-123S-68	Brown fire stop	Basement – west wall of electrical room	12% Chrysotile Asbestos

Sample Number	Homogeneous Material	Sample Location	Analytical Result
888200B-123S-69	Mudded joint packing	Basement – south side of electrical room	NAD
888200B-123S-70	Wall mastic	Basement – west wall of electrical room	NAD
888200B-123S-71	Wall mastic	Basement – west wall of electrical room	NAD

Historic Sampling Conducted on September 15, 2010

Sample Number	Homogeneous Material	Sample Location	Analytical Result
651421-1	Ceiling sheetrock	Room 009 – north side	No Asbestos Detected (NAD)
651421-2	Ceiling sheetrock	Room 009 – south side	NAD
651421-3	Wall joint compound	Hall side of room 005	NAD
651421-4	Wall sheetrock	Hall side of room 005	NAD
651421-5	Wall joint compound	Room 004 – east wall	NAD
651421-6	Wall sheetrock	Room 004 – east wall	NAD
651421-7	Ceiling plaster	Attic landing – top of north stairwell – north side	NAD
651421-8	Ceiling plaster	Attic landing – top of north stairwell – south side	NAD
651421-9	Ceiling sheetrock (above plaster)	Attic landing – top of north stairwell – north side	NAD
651421-10	Ceiling sheetrock (above plaster)	Attic landing – top of north stairwell – south side	NAD
651421-11	Wall joint compound	1 st floor hall by room 108 – above lay-in ceiling – east wall	NAD
651421-12	Wall sheetrock	1 st floor hall by room 108 – above lay-in ceiling – east wall	NAD
651421-13	1' x 2' stapled ceiling tile	1 st floor hall by room 108 – above lay-in ceiling	NAD
651421-14	2' x 4' lay-in ceiling tile with pins and divots	1 st floor hall by room 108	NAD
651421-15	1' x 1' ceiling tile with pins and divots	1 st floor – room 113 – north side	NAD

Sample Number	Homogeneous Material	Sample Location	Analytical Results
651421-16	1' x 1' ceiling tile with pins and divots	1 st floor conference room 108 – north side	NAD
651421-17A	Wall plaster – white top coat	1 st floor – room 113 – west wall	NAD
651421-17B	Wall plaster – gray rough coat	1 st floor – room 113 – west wall	NAD
651421-18A	Wall plaster – white top coat	1 st floor stairwell by room 111 – west wall	NAD
651421-18B	Wall plaster – gray rough coat	1 st floor stairwell by room 111 – west wall	NAD
651421-19	1' x 1' ceiling tile – perforated (patch)	1 st floor – room 107	NAD
651421-20A	Wall plaster – white top coat	2 nd floor – hall by room 205	NAD
651421-20B	Wall plaster – gray rough coat	2 nd floor – hall by room 205	NAD
651421-21	1' x 2' stapled ceiling tile (main)	2 nd floor – hall by room 205	NAD
651421-22	2' x 4' lay-in ceiling tile with pins and divots	2 nd floor – hall by room 205	NAD
651421-23	Decorative ceiling coating	2 nd floor – room 205 (applied to 1' x 2' stapled ceiling tiles)	NAD
651421-24	Decorative ceiling coating	2 nd floor – room 206 (applied to 1' x 2' stapled ceiling tiles)	NAD
651421-25	Decorative ceiling coating	2 nd floor – room 210 (applied to 1' x 2' stapled ceiling tiles)	NAD
651421-26	Decorative ceiling coating	2 nd floor – room 213 (applied to 1' x 2' stapled ceiling tiles)	NAD
651421-27	Wall joint compound	1 st floor – room 114 – north wall	NAD
651421-28	Wall sheetrock	1 st floor – room 114 – north wall	NAD
651421-29	Wall joint compound	2 nd floor – room 212 – north wall	NAD
651421-30	Wall sheetrock	2 nd floor – room 212 – north wall	NAD
651421-31A	Wall plaster – white top coat	2 nd floor – hall by room 211 – east wall	NAD
651421-31B	Wall plaster – gray rough coat	2 nd floor – hall by room 211 – east wall	NAD
651421-32	Wall joint compound	2 nd floor – hall by room 208 – east wall	NAD

Sample Number	Homogeneous Material	Sample Location	Analytical Result
651421-33	Wall sheetrock	2 nd floor – hall by room 208 – east wall	NAD
651421-34A	Vinyl floor sheeting – beige with swirl pattern	2 nd floor – north kitchenette	NAD
651421-34B	Flooring mastic	2 nd floor – north kitchenette	NAD
651421-35A	Vinyl floor sheeting – beige with swirl pattern	2 nd floor – women's room	NAD
651421-35B	Flooring mastic	2 nd floor – women's room	NAD
651421-36A	Wall plaster – white skim coat	3 rd floor – north kitchenette – north wall	NAD
651421-36B	Wall plaster – gray rough coat	3 rd floor – north kitchenette – north wall	NAD
651421-37	Decorative ceiling coating	3 rd floor – north kitchenette – on 1' x 1' ceiling tiles	NAD
651421-38	Decorative ceiling coating	3 rd floor – room 306	NAD
651421-39	Decorative ceiling coating	3 rd floor – room 308	NAD
651421-40	Decorative ceiling coating	3 rd floor – room 309 closet	NAD
651421-41	Decorative ceiling coating	3 rd floor – room 312	NAD
651421-42	Wall joint compound	3 rd floor – room 309 closet – east wall	NAD
651421-43	Wall sheetrock	3 rd floor – room 309 closet – east wall	NAD
651421-44	1' x 1' perforated ceiling tiles	3 rd floor – hall by room 309	NAD
651421-45	1' x 1' perforated ceiling tiles	3 rd floor – hall by room 318	NAD
651421-46	Attic insulation – white	Attic – north end	NAD
651421-47	Attic insulation – white	Attic – south end	NAD

Historic Sampling Conducted on August 12, 2008

Sample Number	Homogeneous Material	Sample Location	Analytical Result
78176B-1A	Yellow carpet glue	Waterbury State Office Building – 3 South entrance floor	No Asbestos Detected (NAD)
78176B-1B	Vinyl floor sheeting under yellow carpet glue	Waterbury State Office Building – 3 South entrance floor	NAD
78176B-1C	Red floor tile under yellow carpet glue	Waterbury State Office Building – 3 South entrance floor	3% Chrysotile Asbestos
78176B-1D	Black mastic under yellow carpet glue	Waterbury State Office Building – 3 South entrance floor	NAD
78176B-2A	Yellow carpet glue	Waterbury State Office Building – 3 South entrance floor	NAD
78176B-2B	Vinyl floor sheeting under yellow carpet glue	Waterbury State Office Building – 3 South entrance floor	NAD
78176B-2C	Red floor tile under yellow carpet glue	Waterbury State Office Building – 3 South entrance floor	3% Chrysotile Asbestos
78176B-2D	Black mastic under yellow carpet glue	Waterbury State Office Building – 3 South entrance floor	NAD

Historic Sampling Conducted on June 29, 2004

Sample Number	Homogeneous Material	Sample Location	Analytical Result
26943-1	White floor leveler (type 1)	2 nd floor – northeast corner of women's bathroom	No Asbestos Detected (NAD)
26943-2	White floor leveler (type 2) under white floor leveler (type 1)	2 nd floor – northeast corner of women's bathroom	NAD

INVENTORY OF CONFIRMED/PRESUMED ASBESTOS-CONTAINING MATERIALS CONTAINING GREATER THAN 1% ASBESTOS:

- 100 sq.ft. +/- Asbestos transite cement board (ground floor)
- 150 sq.ft. +/- Debris and dirt in mechanical area (ground floor)
- 1200 sq.ft +/- Vinyl floor tile and associated black mastic (three stair towers)
- 6000 sq.ft +/- Flooring plaster
- 60 ln.ft. +/- Non-fiberglass pipe and fitting insulation
- 90 ln.ft. +/- Non-fiberglass pipe and fitting insulation potentially in wet walls
- 20 each (360 sq.ft.) +/- Fire doors
- 105 each (53 sq.ft.) +/- Windows with asbestos-containing caulk and glazing

LIST OF NON-ASBESTOS CONTAINING MATERIALS

The following suspect building materials were sampled and found not to contain asbestos:

- 4" brown cove base
- Brown floor separator
- Beige stair tread
- Orange carpet glue
- Gray floor leveler
- Black gasket
- Homosote flooring
- Yellow epoxy flooring
- 6" beige cove base
- Gray vinyl flooring
- Gray flooring paper
- Gray glue
- Fine black sandy substance under linoleum
- Black flooring paper
- Black mastic filler residue
- 12" x 12" small worm patterned ceiling tile (patch)
- Blue floor separator
- Red gasket
- White pipe mastic
- Wall mastic

RENOVATION REQUIREMENTS

Friable ACM or Presumed ACM (“PACM”)

Friable ACM or PACM is an asbestos-containing material that when dry can be crumbled, pulverized, or reduced to powder by hand pressure, or a non-friable material that has been made friable by actions such as, but not limited to, sanding, grinding, sawing, abrading, and etc. The following materials were identified as friable ACM:

- ◇ **Window glazing**
- ◇ **Heating system mudded joint packings**

The following regulatory agencies have regulations in effect when removing/disturbing friable ACM:

VRAC - V.S.A. Title 18, Chapter 26, requires that all friable ACM that will be disturbed by renovation or demolition activities be properly removed prior to disturbance. VRAC requires the use of Vermont Certified Asbestos Abatement Entities to remove these materials. The work must be performed in accordance with VRAC Section 2.4.2. The Asbestos Abatement Entity must notify the Vermont Department of Health in writing 10 working days prior to commencing removal activities and obtain a Project Permit.

VOSHA Title 29 Code of Federal Regulations (“**CFR**”) 1926.1101 *Asbestos Standard for the Construction Industry* classifies these materials as Class I Asbestos Work. With the exception of respiratory protection, VRAC has more stringent requirements when removing friable ACM.

USEPA Title 40 CFR Part 61 *National Emission Standards for Hazardous Air Pollutants; Asbestos NESHAP Revision; Final Rule* regulates the removal of friable ACM whenever 1) a “facility” will be demolished and 2) a “facility” being renovated will disturb quantities in excess of 160 square feet or 260 linear feet. VRAC has more stringent requirements when removing friable ACM. The EPA must be notified 10 working days in advance of asbestos removal and demolition activities.

Non-Friable Asbestos-Containing Materials

Non-friable ACM or PACM is an asbestos-containing material that when dry cannot be crumbled, pulverized, or reduced to powder by hand pressure. The following materials were identified as non-friable ACM:

- ◇ **White sink undercoat**
- ◇ **Gray floor tile**
- ◇ **Door caulk (remnant)**
- ◇ **Black mastic (under floor tile & remnants)**
- ◇ **9” x 9” dark brown floor tile**
- ◇ **Light brown floor tile**
- ◇ **Brown fire stop**
- ◇ **Window caulk/sealant (the VDH does not provide a non-friable exemption for any material not specifically listed under VRAC Section 6, including caulks and sealants)**

VRAC requires that all non-friable asbestos-containing materials that will be disturbed by demolition activities be properly removed prior to disturbance. Vinyl floor tiles & mastics and roofing materials can be removed in accordance with VRAC Section 6 (less stringent work practice requirements). Vermont licensed asbestos abatement personnel are not required. In short, the removal procedures include but do not limit:

- ◆ adequately wetting the material;
- ◆ removing the material in as large of sections as feasible; and
- ◆ properly packaging, labeling, transporting and disposing of the material.

The material cannot be sanded, sawn, chipped, ground, abraded or drilled.

NOTE: the Vermont Department of Health does not provide an exemption for any non-friable materials not specifically listed under VRAC Section 6, including caulks and sealants.

OSHA classifies these materials as Class II. OSHA has more stringent requirements than VRAC Section 6, requiring a “Competent Person” (asbestos abatement supervisor with a minimum 40 hour asbestos supervisor training course) as well as producing a negative exposure assessment.

USEPA requirements do not apply (with the exception of the demolition notification if applicable) unless the non-friable ACM is subjected to sanding, sawing, chipping, grinding, abrading or drilling. The EPA must be notified 10 working days in advance of the demolition activities (with a copy sent to the Vermont Department of health, Asbestos & Lead Control Program). A “Competent Person” with asbestos supervisor training should be onsite during the demolition activities.

ASBESTOS HAZARD COMMUNICATION REQUIREMENTS

This section applies to the communication of information concerning asbestos hazards in construction & general industry to facilitate compliance with OSHA 1926.1101 (construction) and 1910.1001 (general industry). Building owners are often the only and/or best sources of information concerning the presence of previously installed ACM. Therefore they, along with employers of potentially exposed employees, are assigned specific duties for hazard communication.

Building and/or facility owners shall notify the following persons of the presence, location and quantity of ACM or PACM, at the work sites in their buildings and facilities. Notification shall be either in writing, or shall consist of a personal communication between the owner and the person to whom notification must be given or their authorized representatives:

- Prospective employers applying or bidding for work whose employees reasonably can be expected to work in or adjacent to areas containing such material;
- Employees of the owner who will work in or adjacent to areas containing such material; and
- On multi-employer worksites, all employers of employees who will be performing work within or adjacent to areas containing such material.

Disclaimer: Some suspect materials may be present in locations such as behind walls, in chases, above rigid ceilings, inside crawl spaces, etc. that were not visible or accessible to the Inspector. In the event suspect materials not identified in this report are discovered through demolition activities, the discovered material must be presumed as asbestos-containing and treated accordingly.

Please call our office at 802-888-1936 if you have any questions regarding this report or if you need further information.

Signed,



R. Chris Crothers, Principal / Vermont Licensed Asbestos Inspector
Crothers Environmental Group, LLC

Attachments: Asbestos Bulk Sample Chain of Custody
Laboratory Analysis Sheets
Consultant & Laboratory License Copies

cc:  CEG888200-123S

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (800) 220-3675 / (856) 786-5974

<http://www.emsl.com>cinnaslab@EMSL.com

EMSL Order: 041227892

CustomerID: CROT30

CustomerPO:

ProjectID: WSOC

Attn: **Chris Clement**
Crothers Environmental Group
29 Duncan Road
Morrisville, VT 05661

Phone: (802) 888-1936
 Fax:
 Received: 10/24/12 10:10 AM
 Analysis Date: 11/1/2012
 Collected: 10/12/2012

Project: **888200-123 South-WSOC-Throughout**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
888200123S-1-covebase 041227892-0001	3rd floor W wall rm 315 - 4" brown covebase	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-1-mastic 041227892-0001A	3rd floor W wall rm 315 - yellow glue	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-2 041227892-0002	3rd floor rm 315 - window glazing	Gray Non-Fibrous Heterogeneous		98% Non-fibrous (other)	2% Chrysotile
888200123S-3 041227892-0003	3rd floor rm 315 - window caulk	Gray Non-Fibrous Heterogeneous		96% Non-fibrous (other)	4% Chrysotile
888200123S-4 041227892-0004	3rd floor-top of N stairwell - brown floor seperator	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
Recommend TEM					
888200123S-5-stair tread 041227892-0005	3rd floor-top of N stairwell - beige stair tread	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-5-mastic 041227892-0005A	3rd floor-top of N stairwell - black mastic	Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected

Analyst(s)

Chelsey Bilhear (16)

Juli Patel (19)

Christopher Mercer (62)

Leslie McCluskey-Eissing (15)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
888200123S-6 041227892-0006	3rd floor-N stairwell landing - orange carpet glue	Orange Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-7 041227892-0007	3rd floor-under carpet, top of N stairwell - grey floor leveler	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-8 041227892-0008	3rd floor-under sink in N kitchenette - white sink undercoat	Beige Non-Fibrous Heterogeneous		95% Non-fibrous (other)	5% Chrysotile
888200123S-9 041227892-0009	3rd floor-under sink in N kitchenette - black gasket	Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-10- grey leveler 041227892-0010	3rd floor-closet North of half wall cubicle - grey floor leveler	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-10- white leveler 041227892-0010A	3rd floor-closet North of half wall cubicle - white leveler	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-10-tile 041227892-0010B	3rd floor-closet North of half wall cubicle - grey tile	Gray Non-Fibrous Heterogeneous		98% Non-fibrous (other)	2% Chrysotile

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
888200123S-10-mastic 041227892-0010C	3rd floor-closet North of half wall cubicle - black mastic	Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-11-grey leveler 041227892-0011	3rd floor-closet North of half wall cubicle - grey floor leveler	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-11-white leveler 041227892-0011A	3rd floor-closet North of half wall cubicle - white leveler	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-11-tile 041227892-0011B	3rd floor-closet North of half wall cubicle - grey tile	Gray Non-Fibrous Heterogeneous		98% Non-fibrous (other)	2% Chrysotile
888200123S-11-mastic 041227892-0011C	3rd floor-closet North of half wall cubicle - black mastic	Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-12-homasote 041227892-0012	3rd floor-rm 307 - homasote	Brown/Gray Fibrous Heterogeneous	95% Cellulose	5% Non-fibrous (other)	None Detected
888200123S-12-mastic 041227892-0012A	3rd floor-rm 307 - black mastic	Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected

Recommend TEM

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Project: **888200-123 South-WSOC-Throughout**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type
888200123S-12-Leveler 041227892-0012B	3rd floor-rm 307 - black mastic	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-13-homasote 041227892-0013	3rd floor-rm 305 - homasote	Brown Fibrous Heterogeneous	95% Cellulose	5% Non-fibrous (other)	None Detected
888200123S-13-mastic 041227892-0013A	3rd floor-rm 305 - black mastic	Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
Recommend TEM					
888200123S-13-Leveler 041227892-0013B	3rd floor-rm 305 - black mastic	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-14-apoxy 041227892-0014	3rd floor-mens restroom underneath linoleum - yellow apoxy flooring	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-14-grout 041227892-0014A	3rd floor-mens restroom underneath linoleum - dark grout	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
888200123S-15-apoxy 041227892-0015	3rd floor-mens restroom underneath linoleum - yellow epoxy flooring	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-15-grout 041227892-0015A	3rd floor-mens restroom underneath linoleum - dark grout	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-16 041227892-0016	2nd floor on patio - window glazing	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-17 041227892-0017	2nd floor on patio - window caulk	Gray Non-Fibrous Heterogeneous		98% Non-fibrous (other)	2% Chrysotile
888200123S-18 041227892-0018	2nd floor on patio - door caulk remnant	Gray Non-Fibrous Heterogeneous		97% Non-fibrous (other)	3% Chrysotile
888200123S-19 041227892-0019	2nd floor-on exterior wall on patio - black mastic remnant	Black Non-Fibrous Heterogeneous		97% Non-fibrous (other)	3% Chrysotile
888200123S-20 041227892-0020	2nd floor-on exterior wall on patio - black mastic remnant	Black Non-Fibrous Heterogeneous		98% Non-fibrous (other)	2% Chrysotile

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>	
			%	Fibrous	%	Type
888200123S-21 041227892-0021	2nd floor-heat pipe in kitchenette - heating system MJP	Gray Fibrous Heterogeneous	8%	Cellulose	72% Non-fibrous (other)	20% Chrysotile
888200123S-22 041227892-0022	2nd floor-closet adj to rm 215 - heating system MJP	Gray Fibrous Heterogeneous	15%	Min. Wool	85% Non-fibrous (other)	None Detected
The sample group is not homogeneous						
888200123S-23 041227892-0023	2nd floor-rm 209 - heating system MJP	Gray Non-Fibrous Heterogeneous	10%	Min. Wool	90% Non-fibrous (other)	None Detected
888200123S-24-covebase 041227892-0024	2nd floor-hall outside rm 206 - 4" brown cove base	Brown Non-Fibrous Heterogeneous			100% Non-fibrous (other)	None Detected
888200123S-24-mastic 041227892-0024A	2nd floor-hall outside rm 206 - yellow glue	Yellow Non-Fibrous Heterogeneous			100% Non-fibrous (other)	None Detected
888200123S-25-Cove Base 041227892-0025	2nd floor-outside mens bathroom - 2" brown floor separator	Brown Non-Fibrous Heterogeneous			100% Non-fibrous (other)	None Detected
888200123S-25-Mastic 041227892-0025A	2nd floor-outside mens bathroom - 2" brown floor separator	Yellow Non-Fibrous Heterogeneous			100% Non-fibrous (other)	None Detected

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Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type
888200123S-26-Separator 041227892-0026	2nd floor-outside mens bathroom - 2" brown floor separator	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-26-Mastic 041227892-0026A	2nd floor-outside mens bathroom - 2" brown floor separator	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-27-covebase 041227892-0027	2nd floor-N wall mens bathroom - 6" beige covebase	Beige Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-27-mastic 041227892-0027A	2nd floor-N wall mens bathroom - yellow glue	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-28-covebase 041227892-0028	2nd floor-S wall mens bathroom - 6" beige covebase	Beige Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-28-mastic 041227892-0028A	2nd floor-S wall mens bathroom - yellow glue	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-29-vinyl 041227892-0029	2nd floor-N floor of mens room - grey vinyl flooring	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected

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Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type
888200123S-29-glue 041227892-0029A	2nd floor-N floor of mens room - yellow glue	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-29-leveler 041227892-0029B	2nd floor-N floor of mens room - white floor leveler	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-30-vinyl 041227892-0030	2nd floor-S floor of mens room - grey vinyl flooring	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-30-glue 041227892-0030A	2nd floor-S floor of mens room - yellow glue	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-31-paper 041227892-0031	2nd floor-S side of womens room - grey flooring paper	Brown Fibrous Heterogeneous	85% Cellulose 5% Glass	10% Non-fibrous (other)	None Detected
888200123S-31-glue 041227892-0031A	2nd floor-S side of womens room - orange glue	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-31-leveler 041227892-0031B	2nd floor-S side of womens room - white floor leveler	White Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected

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200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (800) 220-3675 / (856) 786-5974

<http://www.emsl.com>cinnaslab@EMSL.com

EMSL Order: 041227892

CustomerID: CROT30

CustomerPO:

ProjectID: WSOC

Attn: **Chris Clement**
Crothers Environmental Group
29 Duncan Road
Morrisville, VT 05661

Phone: (802) 888-1936
 Fax:
 Received: 10/24/12 10:10 AM
 Analysis Date: 11/1/2012
 Collected: 10/12/2012

Project: **888200-123 South-WSOC-Throughout**

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type
888200123S-32- paper 041227892-0032	2nd floor-N side of womens room - grey flooring paper	Brown Fibrous Heterogeneous	95% Cellulose	5% Non-fibrous (other)	None Detected
888200123S-32- glue 041227892-0032A	2nd floor-N side of womens room - orange glue	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-32- leveler 041227892-0032B	2nd floor-N side of womens room - white floor leveler	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-33- grey glue 041227892-0033	2nd floor-under carpet S end of hall - grey glue	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-33- orange glue 041227892-0033A	2nd floor-under carpet S end of hall - orange glue	Orange Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-33- homasote 041227892-0033B	2nd floor-under carpet S end of hall - homasote	Brown Fibrous Heterogeneous	95% Cellulose	5% Non-fibrous (other)	None Detected
888200123S-33- mastic 041227892-0033C	2nd floor-under carpet S end of hall - black mastic	Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected

Analyst(s)

Chelsey Bilhear (16)

Juli Patel (19)

Christopher Mercer (62)

Leslie McCluskey-Eissing (15)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type
888200123S-34-grey glue 041227892-0034	2nd floor - grey glue	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-34-orange glue 041227892-0034A	2nd floor - orange glue				Insufficient Material
888200123S-34-homasote 041227892-0034B	2nd floor - homasote	Brown Fibrous Heterogeneous	80% Cellulose	20% Non-fibrous (other)	None Detected
888200123S-34-mastic 041227892-0034C	2nd floor - black mastic	Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-35 041227892-0035	2nd floor-under carpet on center stairwell - orange carpet glue	Orange Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-36 041227892-0036	2nd floor-under linoleum in kitchenette - fine black sandy substance (only black)	Black Non-Fibrous Heterogeneous	5% Cellulose 5% Synthetic	90% Non-fibrous (other)	None Detected

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Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type
888200123S-37 041227892-0037	2nd floor-under linoleum in kitchenette - fine black sandy substance (only black)	Black Non-Fibrous Heterogeneous	3% Synthetic	97% Non-fibrous (other)	None Detected
888200123S-38 041227892-0038	1st floor-hallway-S end of building - black flooring paper (paper only)	Brown/Black Fibrous Heterogeneous	70% Cellulose	30% Non-fibrous (other)	None Detected
888200123S-39 041227892-0039	1st floor-hallway-N end of building - black flooring paper (paper only)	Black Fibrous Heterogeneous	75% Cellulose	25% Non-fibrous (other)	None Detected
888200123S-40-tile 041227892-0040	1st floor-S stairwell landing under carpet - 9x9 dark brown FT	Brown Non-Fibrous Heterogeneous		92% Non-fibrous (other)	8% Chrysotile
888200123S-40-mastic 041227892-0040A	1st floor-S stairwell landing under carpet - black mastic	Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-41-covebase 041227892-0041	1st floor-S wall-S end of hallway - 4" brown covebase	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type
888200123S-41-mastic 041227892-0041A	1st floor-S wall-S end of hallway - glue	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-42 041227892-0042	1st floor-SW window room #113 - window glazing	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-43 041227892-0043	1st floor-SW window room #113 - window caulk	Gray Non-Fibrous Heterogeneous		96% Non-fibrous (other)	4% Chrysotile
888200123S-44 041227892-0044	1st floor-exit door to patio - door caulk remnant	Gray Non-Fibrous Heterogeneous		96% Non-fibrous (other)	4% Chrysotile
888200123S-45-tile 041227892-0045	1st floor-under carpet in central stairwell - 9x9 dark brown FT	Brown Non-Fibrous Heterogeneous		95% Non-fibrous (other)	5% Chrysotile
888200123S-45-mastic 041227892-0045A	1st floor-under carpet in central stairwell - black mastic	Black Non-Fibrous Heterogeneous	3% Cellulose	95% Non-fibrous (other)	2% Chrysotile
888200123S-45-glue 041227892-0045B	1st floor-under carpet in central stairwell - orange carpet glue	Yellow Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type
888200123S-46 041227892-0046	1st floor-under carpet in central stairwell - orange carpet glue (glue only)	Orange Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-47 041227892-0047	1st floor-on floor in womens restroom - black mastic filler residue	Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-48 041227892-0048	1st floor-on floor in womens restroom - black mastic filler residue	Black Non-Fibrous Homogeneous		100% Non-fibrous (other)	None Detected
888200123S-49 041227892-0049	1st floor-on heat pipes center of hall - MJP	Gray Fibrous Heterogeneous	20% Min. Wool	80% Non-fibrous (other)	None Detected
888200123S-50 041227892-0050	1st floor-mens restroom - 12x12 small worm patch CT	Gray/White Fibrous Heterogeneous	40% Cellulose 40% Min. Wool	20% Non-fibrous (other)	None Detected
888200123S-51-tile 041227892-0051	1st floor - light brown FT	Tan Non-Fibrous Heterogeneous		97% Non-fibrous (other)	3% Chrysotile
888200123S-51-mastic 041227892-0051A	1st floor - mastic	Black Non-Fibrous Heterogeneous		98% Non-fibrous (other)	2% Chrysotile

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type
888200123S-52-tile 041227892-0052	1st floor - light brown FT	Pink Non-Fibrous Heterogeneous		98% Non-fibrous (other)	2% Chrysotile <1% Anthophyllite
Recommend TEM					
888200123S-52-mastic 041227892-0052A	1st floor - mastic	Black Non-Fibrous Heterogeneous		96% Non-fibrous (other)	4% Chrysotile
888200123S-53 041227892-0053	1st floor-E side of N entry to 123S - grey floor leveler	Gray Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-54 041227892-0054	1st floor-W side of N entry to 123S - grey floor leveler	Brown/Gray Fibrous Heterogeneous	2% Cellulose	98% Non-fibrous (other)	None Detected
888200123S-55 041227892-0055	1st floor-stairwell S end of building - brown floor seperator	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
Recommend TEM					
888200123S-56 041227892-0056	1st floor-stairwell N end of building - brown floor seperator	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-57-stair tread 041227892-0057	1st floor-stairwell to core S hall - beige stair tread	Beige Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected

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Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
888200123S-57-mastic 041227892-0057A	1st floor-stairwell to core S hall - black mastic	Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-58-covebase 041227892-0058	1st floor-stairwell to core S hall - 6" beige covebase	Beige Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-58-mastic 041227892-0058A	1st floor-stairwell to core S hall - brown glue	Brown Non-Fibrous Heterogeneous	2% Fibrous (other)	98% Non-fibrous (other)	None Detected
Recommend TEM					
888200123S-59 041227892-0059	1st floor-entrance to bathroom S end of hall - blue floor separator	Blue Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-60 041227892-0060	1st floor-entrance to bathroom S end of hall - blue floor separator	Blue Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-61-stair tread 041227892-0061	Basement-N stairwell landing - beige stair tread	Beige Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected

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			% Fibrous	% Non-Fibrous	% Type
888200123S-61-mastic 041227892-0061A	Basement-N stairwell landing - black mastic	Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-62-Cove Base 041227892-0062	Basement-S side of hall on S stairwell - 6" beige covebase	Beige Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-62-Glue 041227892-0062A	Basement-S side of hall on S stairwell - 6" beige covebase	Brown Non-Fibrous Heterogeneous	2% Fibrous (other)	98% Non-fibrous (other)	None Detected
Recommend TEM					
888200123S-63 041227892-0063	Basement-on steam pipes in mech room - red gasket	Red Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-64 041227892-0064	Basement-on steam pipes in mech room - red gasket	Red Fibrous Homogeneous	1% Cellulose	99% Non-fibrous (other)	None Detected
888200123S-65 041227892-0065	Basement-on steam pipes in mech room - white pipe mastic (mastic only)	White Non-Fibrous Heterogeneous	1% Cellulose	99% Non-fibrous (other)	None Detected

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Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 and/or EPA 600/M4-82-020 Method(s) using Polarized Light Microscopy

Sample	Description	Appearance	<u>Non-Asbestos</u>		<u>Asbestos</u>
			% Fibrous	% Non-Fibrous	% Type
888200123S-66 041227892-0066	Basement-hallway pipes-N side - white pipe mastic (mastic only)	White Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (other)	None Detected
888200123S-67 041227892-0067	Basement-W wall of electrical room - brown firestop	Brown Fibrous Heterogeneous		90% Non-fibrous (other)	10% Chrysotile
888200123S-68 041227892-0068	Basement-W wall of electrical room - brown firestop	Brown Fibrous Heterogeneous		88% Non-fibrous (other)	12% Chrysotile
888200123S-69 041227892-0069	Basement-S side of electrical room - MJP	Gray Fibrous Heterogeneous	20% Min. Wool 10% Cellulose	70% Non-fibrous (other)	None Detected
888200123S-70 041227892-0070	Basement-W wall of electrical room - wall mastic	Black Non-Fibrous Heterogeneous		100% Non-fibrous (other)	None Detected
888200123S-71 041227892-0071	Basement-W wall of electrical room - wall mastic	Brown Fibrous Heterogeneous	3% Min. Wool	97% Non-fibrous (other)	None Detected

VT Cert #PB812017 (CB), VT Cert #PB812018 (CM), VT Cert #PB091886 (JP), VT Cert #PB080781 (LM)

Analyst(s)

Chelsey Bilhear (16)

Juli Patel (19)

Christopher Mercer (62)

Leslie McCluskey-Eissing (15)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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 Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036

Initial report from 11/01/2012 14:18:26

**EMSL Analytical, Inc.**

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<http://www.EMSL.com>cinnaslab@EMSL.com

EMSL Order: 041324634

CustomerID: CROT30

CustomerPO:

ProjectID: WSOC

Attn: **Chris Crothers**
Crothers Environmental Group
29 Duncan Road
Morrisville, VT 05661

Phone: (802) 888-1936
Fax:
Received: 09/12/13 9:15 AM
Analysis Date: 9/13/2013
Collected: 9/11/2013

Project: 888200-SHC - South Hytoric Core

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos	
			% Fibrous	% Non-Fibrous	% Type	
200-SHC-19 041324634-0001	5 SOUTH, 2ND FLOOR, N. SIDE OF CIRCULAR AREA - PLASTER IN SUB FLOOR	Gray Non-Fibrous Homogeneous	5% Hair	95% Non-fibrous (other)		None Detected
200-SHC-20 041324634-0002	6/7 SOUTH, 2ND FLOOR, S.W. SIDE - PLASTER IN SUB FLOOR	Gray Non-Fibrous Homogeneous		96% Non-fibrous (other)	4% Chrysotile	
200-SHC-21 041324634-0003	1, 2, 3 SOUTH, 2ND FLOOR, ROOM 207 - PLASTER IN SUB FLOOR	Gray Non-Fibrous Homogeneous	5% Hair	95% Non-fibrous (other)		None Detected
200-SHC-22 041324634-0004	1, 2, 3 SOUTH, 2ND FLOOR, ADJ. ELEVATOR - PLASTER IN SUB FLOOR	Gray Non-Fibrous Homogeneous	5% Hair	95% Non-fibrous (other)		None Detected
200-SHC-23 041324634-0005	1, 2, 3 SOUTH, 2ND FLOOR, ROOM 211 - PLASTER IN SUB FLOOR	Gray Non-Fibrous Homogeneous	5% Hair	95% Non-fibrous (other)		None Detected
200-SHC-24 041324634-0006	1, 2, 3 SOUTH, 2ND FLOOR, ROOM 217 - PLASTER IN SUB FLOOR	Gray Non-Fibrous Homogeneous	5% Hair	95% Non-fibrous (other)		None Detected

Analyst(s)

Erica Valent (6)

Juli Patel (1)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036, PA ID# 68-00367

Initial report from 09/13/2013 07:28:14

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EMSL Order: 041324634

CustomerID: CROT30

CustomerPO:

ProjectID: WSOC

Attn: **Chris Crothers**
Crothers Environmental Group
29 Duncan Road
Morrisville, VT 05661

Phone: (802) 888-1936
Fax:
Received: 09/12/13 9:15 AM
Analysis Date: 9/13/2013
Collected: 9/11/2013

Project: 888200-SHC - South Hytoric Core

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	%	<u>Non-Asbestos</u>		<u>Asbestos</u>
				Fibrous	Non-Fibrous	Type
200-SHC-25 041324634-0007	1, 2, 3 SOUTH, HALLWAY, 2ND FLOOR, ADJ. ROOM 216 - PLASTER IN SUB FLOOR	Gray Non-Fibrous Homogeneous			100% Non-fibrous (other)	None Detected

Certification #PB647790 (EV) & #PB091886 (JP)

Analyst(s)

Erica Valent (6)

Juli Patel (1)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036, PA ID# 68-00367

Initial report from 09/13/2013 07:28:14



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EMSL Order ID: 041323883
Customer ID: CROT30
Customer PO:
Project ID: WSOC

Attn: Chris Crothers
Crothers Environmental Group
29 Duncan Road
Morrisville, VT 05661

Phone: (802) 888-1936
Fax: (ema) il -only
Collected: 9/ 3/2013
Received: 9/04/2013
Analyzed: 9/10/2013

Proj: 888200/SHC - South Historic Core (WSOC)

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116 Method via Polarized Light Microscopy

Client Sample ID: 200-SHC-1

Lab Sample ID: 041323883-0001

Sample Description: 1,2,3, South 3rd floor/plaster in sub floor

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Gray	0%	98%	2% Chrysotile	
400 PLM Pt Ct	9/10/2013	Gray	0%	99.25%	0.75% Chrysotile	

Client Sample ID: 200-SHC-2

Lab Sample ID: 041323883-0002

Sample Description: 1,2,3, South 2nd floor near elevator/plaster in sub floor

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Gray	10%	90%	None Detected	

Client Sample ID: 200-SHC-3

Lab Sample ID: 041323883-0003

Sample Description: 1 South floor 2 outside rm 202/plaster in sub floor

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Gray	10%	90%	None Detected	

Client Sample ID: 200-SHC-4

Lab Sample ID: 041323883-0004

Sample Description: 1,2,3, South 3rd floor near stairway/plaster in sub floor

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Gray	5%	95%	None Detected	

Client Sample ID: 200-SHC-5

Lab Sample ID: 041323883-0005

Sample Description: 5 South outside of rm 226/plaster in sub floor

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Gray	5%	95%	None Detected	

Client Sample ID: 200-SHC-6

Lab Sample ID: 041323883-0006

Sample Description: 4 South outside of rm 215/plaster in sub floor

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Gray	8%	92%	None Detected	

Client Sample ID: 200-SHC-7

Lab Sample ID: 041323883-0007

Sample Description: 8,9 South/plaster in sub floor

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Gray	5%	95%	None Detected	



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EMSL Order ID: 041323883
Customer ID: CROT30
Customer PO:
Project ID: WSOC

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116 Method via Polarized Light Microscopy

Client Sample ID: 200-SHC-8 **Lab Sample ID:** 041323883-0008
Sample Description: 5 South outside of rm 226/homosote board/brown

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Brown	95%	5%	None Detected	

Client Sample ID: 200-SHC-9 **Lab Sample ID:** 041323883-0009
Sample Description: 1,2,3, South 3rd floor/homosote board/brown

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Brown/Red	70%	30%	None Detected	Recommend TEM

Client Sample ID: 200-SHC-10-Paper **Lab Sample ID:** 041323883-0010
Sample Description: 5 South outside of rm 226/paper material in floor

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Brown/White	95%	5%	None Detected	

Client Sample ID: 200-SHC-10-Mastic **Lab Sample ID:** 041323883-0010A
Sample Description: 5 South outside of rm 226/paper material in floor

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Black	0%	100%	None Detected	

Client Sample ID: 200-SHC-11-Paper **Lab Sample ID:** 041323883-0011
Sample Description: 8,9, South level 2/paper material in floor

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Brown	90%	10%	None Detected	

Client Sample ID: 200-SHC-11-Mastic **Lab Sample ID:** 041323883-0011A
Sample Description: 8,9, South level 2/paper material in floor

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Black	0%	100%	None Detected	

Client Sample ID: 200-SHC-12-Floor Tile **Lab Sample ID:** 041323883-0012
Sample Description: 4 South level 2/tile & mastic a/b

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Gray	0%	97%	3% Chrysotile	

Client Sample ID: 200-SHC-12-Mastic **Lab Sample ID:** 041323883-0012A
Sample Description: 4 South level 2/tile & mastic a/b

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Black	0%	100%	None Detected	



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EMSL Order ID: 041323883
Customer ID: CROT30
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Project ID: WSOC

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116 Method via Polarized Light Microscopy

Client Sample ID: 200-SHC-12-Mastic **Lab Sample ID:** 041323883-0012B
Sample Description: 4 South level 2/tile & mastic a/b

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Yellow	0%	100%	None Detected	

Client Sample ID: 200-SHC-13-Floor Tile **Lab Sample ID:** 041323883-0013
Sample Description: 4 South level 2/tile & mastic a/b

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Gray/Tan	0%	98%	2% Chrysotile	

Client Sample ID: 200-SHC-13-Mastic **Lab Sample ID:** 041323883-0013A
Sample Description: 4 South level 2/tile & mastic a/b

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Black	0%	100%	None Detected	

Client Sample ID: 200-SHC-13-Mastic **Lab Sample ID:** 041323883-0013B
Sample Description: 4 South level 2/tile & mastic a/b

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	9/05/2013	Yellow	0%	100%	None Detected	

PLM: Cert# PB647790(EV) Cert# PB091886(JP)

Analyst(s)

Erica Valent	PLM	(11)
Juli Patel	PLM	(8)
Samantha Rundstorm	400 PLM Pt Ct	(1)

Stephen Siegel, CIH, Laboratory Manager
or other Approved Signatory

Any questions please contact Steve Siegel.

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036

Initial report from: 09/05/2013 10:40:37